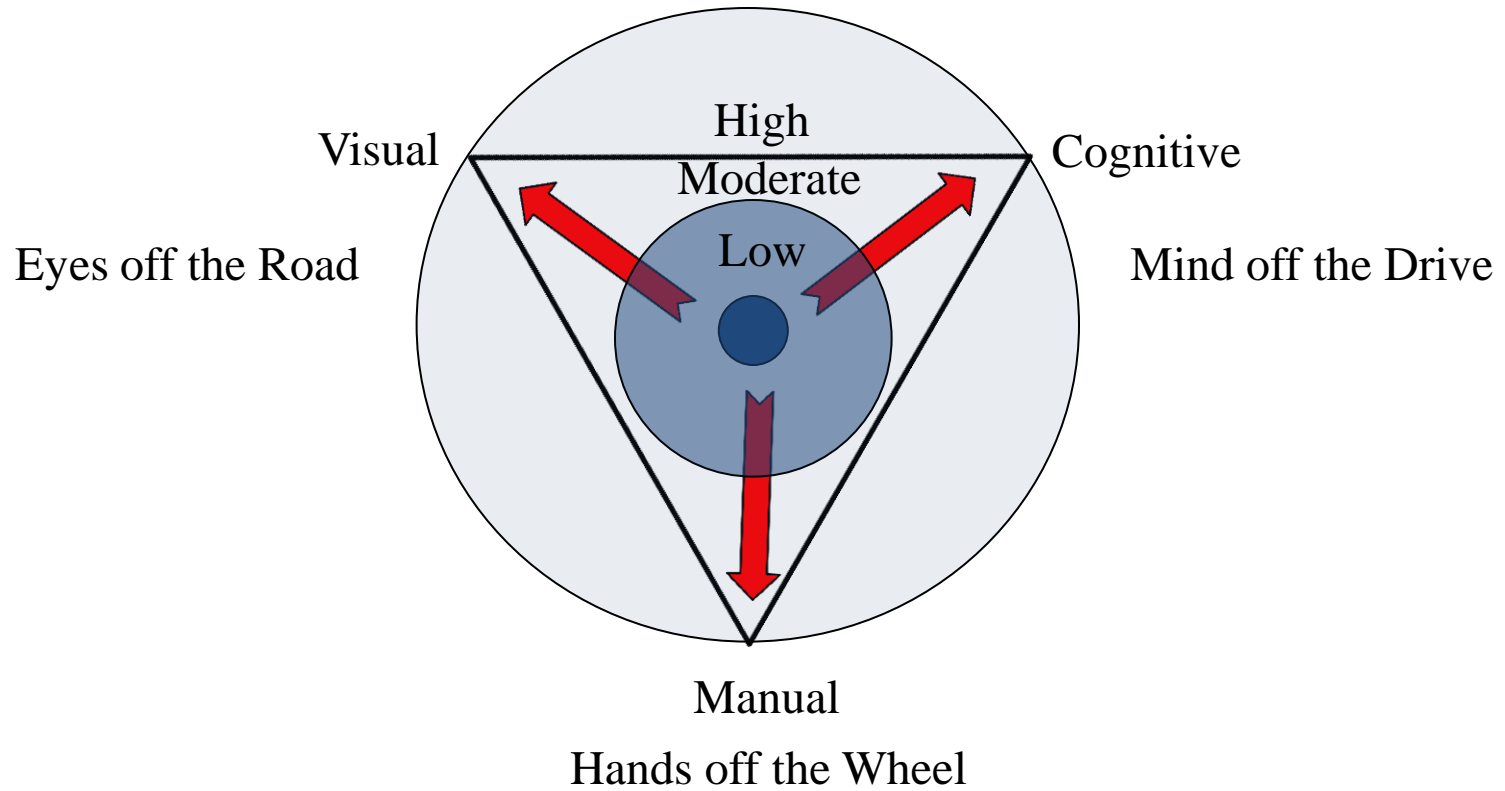


Cognitive Distraction: Voice-based Interactions

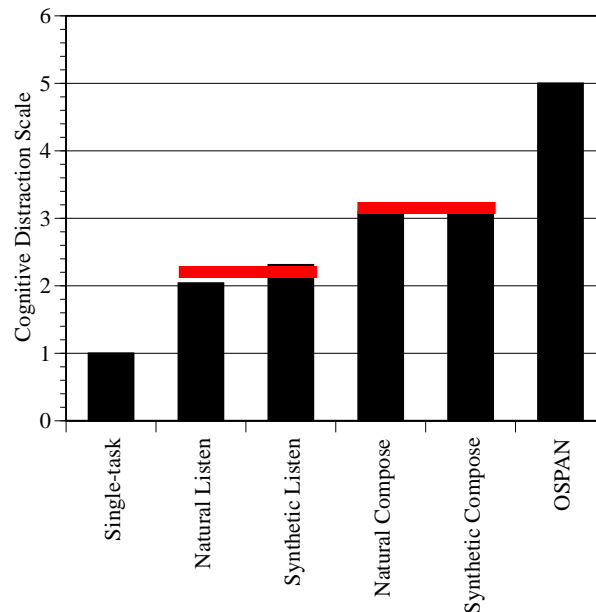
David Strayer
University of Utah

“The diversion of attention away from activities critical for safe driving ...”
- Regan et al., 2011; Strayer & Johnston, 2001



Voice-based In-vehicle Interactions

- Listening Only
 - Natural Speech
 - Computerized Speech
- Listening + Compose
 - Natural Speech
 - Computerized Speech



Unintended Consequences

- Hands-free isn't risk free...
- Voice-based interactions can be much more demanding than initially thought – in some cases equivalent to OSPAN!
- Suggest caution in using voice-based interactions in the vehicle
- Fault tolerant/error free systems easier to use
- Interruptibility (supporting self-regulation) is important